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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,042	03/22/2004	Lawrence J. Malone	022263-000410US	4076

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TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER

JACKSON, BLANE J

ART UNIT	PAPER NUMBER
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2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/807,042	Applicant(s) MALONE ET AL.	
	Examiner Blane J. Jackson	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7-17 and 20-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7-10,12,13,16,17,20,22,23,25 is/are rejected.
- 7) ☒ Claim(s) 11,14,15,21,24 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's Remarks, filed 11 December 2006 with respect to claims 1 and 20, have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5, 7-10, 12, 13, 16, 17, 20, 22, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luneau (US 2004/0203709) in view of Ting et al. (US 7,151,925).

As to claims 1 and 20, Luneau teaches a transceiver system and method for utilizing a plurality of different communication standards (figures 2 and 3), comprising:

a plurality of wireless receivers and transmitters selected for a plurality of different communication standards (figures 2 and 8, paragraphs 0015, 0039-0048 and 0072-0078, a system that configures a protocol converter (32), first switching unit (29) and selects one of a plurality of wideband receiving units (22) and one of a plurality of wireless wideband transmitting units (21) based on a protocol selection signal provided by a user or a processing unit under system operation),

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A memory configured to store information received by the transceiver utilizing a first communication standard and configured to provide the information to the transceiver for transmission according to a second communication standard (figures 2 and 3, paragraphs 0060-0065, the protocol converter (32) includes shared memory (72) for the temporary storage of the received data prior to protocol conversion), and

A plurality of baseband sub-systems coupled to the *multiple receivers/transmitters*, each of the plurality of baseband sub-systems capable of processing one of the plurality of communication standards and wherein each of the baseband sub-systems share memory (figure 3, paragraphs 0060-0069, one or a plurality of protocol converters (32) comprises protocol data stroing memory (82) to store a plurality of data protocols as well as the data extracted by the payload data extracting unit (70) is temporary stored in memory (72)).

Luneau taches a wireless communication bridge utilizing a selected one of a plurality of wireless receivers and transmitters but does not teach a single transceiver selectably configurable to a plurality of different communication standards.

Ting teaches a kernel-oriented macro-based multi-layered architecture for wireless digital communication systems capable of re-configuring and re-programming its components to implement multiple wireless communication standards, services and applications, figure 6, column 4, lines 64 to column 5, line 3. Ting discloses a programmable array is used to supply enough flexibility to re-configure hardware fdor usage of interest where architecture (600) can use pre-designed and pre-tested RF

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front-end kernels to implement the functions of the RF front-end (602), column 5, lines 4-63.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the selection of receivers and transmitters of Luneau with the flexibility to re-configure hardware for a usage of interest as taught by Ting to implement one or more present digital wireless communication standards simultaneously and to accommodate future digital wireless communication standards.

As to claim 3, Luneau teaches the system as recited in claim 1 wherein the single transceiver demodulates received signals into information bits (paragraphs 0089-0105, example of the processing of data bits demodulated from the reception of an AMPS signal).

As to claim 5, Luneau teaches the system as recited in claim 3 wherein the single transceiver re-modulates the information bits into signals utilizing the second communication standard (paragraph 0015, re-modulating and transmission of the data on a second protocol and paragraphs 0084-0088 and 0106-0117 a digital baseband system with bit processing for transmitting of an AMPS signal, valid to teach bit or digital data processing even though it is not a protocol different from the received AMPS signal).

As to claim 7, Luneau teaches the system as recited in claim 1 wherein the single transceiver utilizes the plurality of different communication standards by time multiplexing there between (paragraphs 0065-0066, extracted data is stored temporarily for subsequent modulation to the second protocol).

As to claim 8, Luneau teaches the system as recited in claim 1 wherein the single transceiver is coupled to an antenna sub-system capable of communicating utilizing the plurality of different communication standards (paragraph 0131, figure 10, a single antenna shared using a duplexer between the front end receivers and transmitters).

As to claim 9, Luneau teaches the system as recited in claim 1 wherein the baseband processor comprises a plurality of baseband sub-systems each capable of processing one of the plurality of communication standards (figures 8 and 9, paragraphs 0125 and 0136-0137 and figure 12, paragraphs 0142-0150, each of a plurality of DSP cards (202) is considered a baseband subsystem which include integrated baseband receive and transmit circuits, FPGA RX (222) and FPGA TX (223)).

As to claim 10, Luneau teaches the system as recited in claim 9 wherein the baseband sub-systems are implemented utilizing a plurality of discrete processors (figures 9 and 12, paragraphs 0142-0149, each DSP card (202) comprises four digital signal processors to signal process an identified channel).

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As to claim 12, Luneau teaches the system as recited in claim 9 wherein at least on of a time and a duration of access to the single transceiver by the baseband sub-systems is tracked (figure 9, paragraph 0126, a monitor and control CPCI Host Bus (207) couples the wireless boards (200), DSP cards (202) and under the digital time based control of the Single Board Computer (SBC) card (206)).

As to claim 13, Luneau teaches the system as recited in claim 12 wherein each of the baseband sub-systems access the single transceiver during assigned time intervals (figure 9, paragraph 0126, a monitor and control CPCI Host Bus (207) couples the wireless (RF/IF) boards (200), DSP (baseband) cards (202) and the Single Board Computer (SBC) card (206) to provide bus access timing).

As to claim 16, Luneau teaches the system as recited in claim 9 wherein the baseband sub-systems at least one of translate, code, and decode information bits so as to make the information bits compatible with the plurality of different communication standards (figure 12, paragraphs 0147-0150, the DSP card (202) performs a source coding of a destination and bridging functions if a protocol conversion is required).

As to claim 17, Luneau teaches a method for utilizing a single transceiver comprising:

Receiving a signals utilizing a first standard (figures 4 and 9, paragraphs 0073 and 0083, an input data protocol is selected among a plurality of protocols),

Demodulating the signals into information bits (figure 12, paragraphs 0142-0148, DSP card (202) receives and demodulates data originating from a wireless board (200) and paragraphs and 0089-0105, the reception of an AMPS signal with bit processing),

Re-modulating the information bits into signals utilizing a second standard (paragraphs 0075, 0084-0088 and paragraphs 0106-0117 explains bit processing for transmitting of an AMPS signal, valid to teach bit processing even though it is not a protocol different from the received AMPS signal) and

Transmitting the signals utilizing the second standard (figure 2, paragraphs 0015 and 0074, wireless transmitter selected from a plurality of different protocol transmitting units (21)),

Wherein the receiving and the transmitting are carried out utilizing a single transceiver (figure 2, as opposed to the architecture of figure 1, the system selects a single operating receiver and a single transmitter unit coupled to the protocol converter (32) at a given instant in time).

As to claim 22, Luneau teaches the system of claim 20 wherein the baseband processor comprises a multiple standard baseband processor (figures 9 and 12, paragraphs 0142-0149, DSP (304) performs source decoding etc. and used to perform a source coding of a destination and bridging functions if a protocol conversion is required).

As to claim 23, Luneau teaches the system of claim 20 wherein the baseband processor comprises a first baseband processor configured to operate in accordance with the first communication standard and a second baseband processor configured to operate in accordance with the second communication standard (figure 12, paragraphs 0142-0150, each DSP card (202) comprises four sections and a DSP (304) to each process a different carrier frequencies/protocol).

As to claim 25, Luneau teaches the system of claim 20 wherein the first communication standard comprises a wireless telephone communication standard and the second communication standard comprises a communication standard selected from a list comprising a wireless LAN communication standard, a Bluetooth communication standard and a HomeRF communication standard (paragraphs 0015 and 0082-0084).

Allowable Subject Matter

Claims 11, 14, 15, 21, 24 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. As to claim 21, Luneau teaches a single transceiver that configures one of a plurality of transmit/receive chains for single operation at any given instant in time but does not teach the single transceiver (the same and single transceiver transmit/receive pair) is configured for operation according to the first communication standard prior to the first time period and

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configured for operation according to the second communication standard prior to the second time period.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blane J. Jackson whose telephone number is (571) 272-7890. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BJJ


EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600